

3.2.2 Oregon State Department of Energy



Oregon

John A. Kitzhaber, M.D., Governor



OREGON OFFICE
OF ENERGY

625 Marion St. NE, Suite 1
Salem, OR 97301-3742
Phone: (503) 378-4040
Toll Free: 1-800-221-8035
FAX: (503) 373-7806
www.energy.state.or.us

August 15, 2002

Mr. Michael S. Collins
HSW EIS Document Manager
Richland Operations Office
U.S. Department of Energy, A6-38
P.O. Box 550
Richland, WA 99352-0550

Re: Draft Hanford Site Solid (Radioactive and Hazardous) Waste Program
Environmental Impact Statement, Richland, Washington (DOE/EIS-0286D), April
2002

Dear Mr. Collins:

The Oregon Office of Energy appreciates the opportunity to review and comment on the Draft Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement (Draft HSW EIS).

1

The Oregon Office of Energy highly values transparency in all clean-up and disposal decision-making at the Hanford Site. We also highly value seeking involvement from all those in the region who may be affected by such clean-up and disposal decisions. Simply put, transparency and broad involvement help insure sound decision-making.

2

The May 15, 2002 letter to citizens accompanying the Draft HSW EIS describes the document as a "decision supporting document, not a decision making document...to ensure the decision maker is able to consider the environmental impacts of a proposed major Federal action." The Oregon Office of Energy's extensive review indicates that the Draft HSW EIS is incomplete and contains insufficient detail to fulfill that stated purpose. The document is inadequate to support the thorough analysis of alternatives and environmental, health and safety effects required by the National Environmental Policy Act (NEPA).

Consequently, we urge the U.S. Department of Energy to withdraw the document, revise it to include the information and analyses identified in the following summary comments, and reissue a revised draft for public review and comment.

SUMMARY

3 The Council on Environmental Quality (CEQ) NEPA implementing regulations, 40 CFR § 1502.12, require the summary of an environmental impact statement (EIS) to adequately and accurately summarize the EIS, including the major conclusions and areas of controversy. The summary for the Draft HSW EIS is incomplete without a discussion of the Waste Management Programmatic Environmental Impact Statement (DOE/EIS-0200), which supported the decision to dispose low-level and mixed low-level waste at the Hanford Site and the Nevada Test Site. Explanations of that document and decision are essential to understanding the proposed action.

4 The decision to send low-level and mixed low-level waste to the Hanford Site is what the CEQ regulations describe as a "connected action."¹ The CEQ regulations require connected actions to be considered together to prevent agencies from minimizing potential environmental consequences by segmenting actions. 40 CFR § 1508.25(a)(1).
5 The summary should explain how the Draft HSW EIS relates to the decision to send low-level and mixed-low waste to the Hanford Site. It should specifically list site specific information and analysis deferred by the Waste Management Programmatic EIS for inclusion in the Draft HSW EIS.

STATEMENT OF PURPOSE AND NEED

6 The Statement of Purpose and Need conflicts with the statement in the May 15, 2002 letter to citizens that the Draft HSW EIS is a decision supporting document. The Statement of Purpose and Need states that "DOE needs to enhance and expand...and to make decisions that will enable[.]" (Draft HWS EIS at S.2, emphasis added.) The revised Draft HSW EIS should specify whether the need is to support a decision or make a decision.

7 Further, the proposed action will not occur in a void, but in a place where there is already extensive soil and groundwater contamination. It will occur in the midst of an enormous, complex environmental cleanup. For example, the Draft HSW EIS does not account for the pre-1970 transuranic waste that is buried at the Hanford Site. Also, the River Protection Project is seriously considering additional methods of treating Hanford's tank wastes that will create materials that likely will be disposed of in trenches on-site. The Draft HSW EIS fails to account for such activities.

40 CFR § 1508.25(a)(1) provides:

- "1. Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:
- (i) Automatically trigger other actions which may require environmental impact statements.
 - (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
 - (iii) Are interdependent parts of a larger action and depend on the larger action for their justification."

4
(contd)

The decision to send low-level and mixed low-level waste to the Hanford Site is a connected action under (i). The proposed action in this Draft HSW EIS is a connected action under (iii).

8 We are particularly disturbed that the Draft HSW EIS perpetuates the piecemeal approach to analyzing waste handling, treatment and disposal impacts that the Oregon Office of Energy identified as a problem in its February 1996 comments (1996 Waste Management PEIS Comments) on the Draft Waste Management Programmatic Environmental Impact Statement For Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste (DOE/EIS-0200-D), August 1995.² In those comments, we identified at least two other environmental impact statements describing proposed actions that could leave large quantities of waste in place at the Hanford Site. We noted that contamination plumes from those wastes would have impacts across the Hanford Site for tens of thousands of years. We urged that “[t]he EIS should comprehensively examine the cumulative action of all existing, planned or considered federal actions at each site.” (See 1996 Waste Management PEIS Comments at 2.) Unfortunately, the U.S. Department of Energy never responded to those comments and the problem of piecemeal analysis persists in this Draft HSW EIS.

9 Accordingly, the Statement of Purpose and Need should be revised to specify that the proposed action must occur in conformance with ongoing waste management, treatment, disposal and clean-up activities at the Hanford Site. Those activities and their corresponding risks and regulatory requirements constrain the proposed action. The failure to include information about the interrelationship between the proposed action and ongoing Hanford clean-up activities in the Statement of Purpose and Need causes incomplete analyses throughout the Draft HSW EIS.

ALTERNATIVES

10 The alternatives section is the heart of an EIS. It should rigorously explore and objectively evaluate all reasonable alternatives and explain why alternatives were eliminated from consideration. It should present the environmental impacts of the proposal in comparative form to define the issues and provide a clear basis for choosing among the alternatives. There should be sufficient comparative detail to allow reviewers to evaluate the merits of the alternatives. Finally, the CEQ NEPA regulations specifically require the alternatives section to include appropriate mitigation measures not already included in the proposed action or alternatives. 40 CFR § 1502.14(f).

12 The Oregon Office of Energy’s review indicates that the alternatives section of the Draft HSW EIS is seriously flawed. First, there is no true no-action alternative.³ Second, there is no consideration of a range of alternatives. Third, there is insufficient detail about the alternatives to evaluate them individually or compare them to one another. Finally, none of the alternatives includes any mitigation measures.

² We enclose a copy of those comments as a courtesy for ease of reference.

³ We note that the no-action alternative for disposal of low-level waste listed in the Draft HSW EIS, burial without a cap, is invalid, because it would violate the regulatory requirements for shallow land burial of radioactive waste. Class C wastes must be disposed of a minimum of 5 meters below the surface of the cover or be disposed of with barriers that protect against inadvertent intrusion for at least 500 years. 10 CFR § 61.52(a)(2).

- 12 | The Oregon Office of Energy believes that a true no-action alternative would be a combination of treatment and disposal methods at the originating sites that eliminate the need for shipping waste to the Hanford Site. The alternatives for low-level and mixed
- 13 | low-level waste described in the Draft HSW EIS focus on varying levels of pretreatment and disposal at Hanford. A reasonable range of alternatives should include different
- 14 | methods of treatment to change the wastes into forms that do not release hazardous or radioactive constituents into the vadose zone and groundwater. The alternatives should include a range of locations and trench sizes at the Hanford Site. Most importantly, the alternatives should discuss in detail a range of different trench designs, including liners, leachate collection and treatment systems, gas collection and treatment systems, and cover and cap designs. The alternatives should also include detailed information on the performance standards for these structures, systems for monitoring their performance, measures to mitigate any adverse environmental impacts and institutional controls. All of this information should be discussed and placed in context with ongoing Hanford clean-up activities.

- 15 | The Draft HSW EIS contains essentially no information about the design of the disposal trenches or how the U.S. Department of Energy will assure performance. Without such information, it is impossible to meaningfully compare the alternatives or assess their impacts.

ENVIRONMENTAL CONSEQUENCES

- 16 | The environmental consequences section of an EIS forms the scientific and analytic basis for comparing the alternatives for a proposed action. The CEQ NEPA regulations require this section of an EIS to include unavoidable adverse impacts (direct, indirect and cumulative) as well as means to mitigate them and irreversible or irretrievable resource commitments. 40 CFR § 1502.16.

- 17 | The Oregon Office of Energy's review indicates that the information and analysis deficiencies described above continue into this section of the Draft HSW EIS. There is insufficient detail or information about the alternatives to evaluate their environmental, health and safety impacts. Moreover, the analysis in the Draft HSW EIS is incomplete without factoring the past, present and future waste disposal and clean-up operations at the Hanford Site into all the environmental consequences analyses. The failure to address such activities means that the Draft HSW EIS minimizes the total risk presented by the Hanford Site. It presents incomplete analysis of only the incremental risk increase of the proposed action. Instead, the revised Draft HSW EIS should present a comprehensive analysis of the Hanford Site's risks that includes and identifies the increased risks caused by the proposed action. Finally, several of the impacts discussed in the Draft HSW EIS have questionable scientific or analytic bases.

- 18 | The revised Draft HSW EIS should specify the form of the wastes to be disposed and their radiological activity. The form of the waste – whether and how it may be bound to other materials – has a significant impact on its mobility in the vadose zone and

18 groundwater. Different waste forms will require different burial trench designs to prevent or minimize environmental impacts. Because there is no information about the form of the waste in the Draft HSW EIS, the environmental impacts of the alternatives are uncertain.

19 The revised Draft HSW EIS should also specify waste acceptance criteria, performance standards, maintenance and monitoring plans for the disposal trenches as well as permitting requirements. The waste acceptance criteria assure that the wastes being received at the Hanford Site are the types of wastes the trenches are designed to safely dispose.⁴ The performance standards should take into account existing inventory uncertainty and current environmental effects from past disposal practices as well as the additional impacts of the proposed action. Today, even solid waste landfills are constructed to stringent, predefined engineering and performance standards to minimize environmental impacts. The Draft HSW EIS does not specify trench performance standards. Without information about such standards and plans to assure those standards are being met and maintained, the environmental impacts of the alternatives are unknown.

The revised Draft HSW EIS should also address the following:

Burial Trench Performance Monitoring

20 • Contaminant Detection. The U.S. Environmental Protection Agency's RCRA Ground Water Monitoring Technical Enforcement Guidance Document (TEGD) defines the basic goal of monitoring as detecting the first arrival of a contaminant.⁵ The point of detection monitoring well is usually geographically closer to the area being monitored than the point of compliance monitoring well. This allows intervention to maintain compliance if a contaminant is detected in the point of detection monitoring well. However, the Hanford Site's 200 Area already contains extensive contamination caused by buried wastes with many of the same contaminants that would be disposed under the alternatives presented. The revised Draft HSW EIS should describe how the monitoring system for the proposed burial trenches will distinguish existing contamination from new contamination from wastes in the proposed new burial trenches. The revised Draft HSW EIS should also explain how the proposed monitoring system will be adjusted in response to declining water table levels across the Hanford Site.

21 Monitoring Point of Compliance. The Draft HSW EIS locates points of compliance one kilometer down gradient from the waste disposal site and adjacent to the Columbia River. This groundwater only monitoring strategy allows potential

19 ⁴ Moreover, we repeat our 1996 comment, "Appropriate acceptance criteria must be imposed to limit the risks to the appropriate standards when considered along with the risks from all other wastes and activities on the site." (1996 Waste Management PEIS Comments at 10.)

20 ⁵ See RCRA Ground Water Monitoring Technical Enforcement Guidance Document (TEGD), OSWER Document Number 9950.1, September 1986, Chapter Two at 46.

21

degradation of the aquifer upgradient from the monitoring point. Standard scientific practice and the U.S. Environmental Protection Agency's TEGD recommend locating monitoring wells on the disposal site boundary to allow immediate detection of releases.⁶ This does not preclude monitoring the vadose zone. The revised Draft HSW EIS should explain the basis for departing from that practice and why the proposed locations will assure an equivalent level of aquifer protection and early detection of releases.

Burial Trench Impacts

22

- Groundwater and Risk Models. The Draft HSW EIS contains numerical fate and transport results that predict groundwater plumes that develop differently from past releases and projections. For example, the predicted plume (Draft HSW EIS Figure G.7, at G.34 to G.37) turns to the northeast. That is perpendicular to existing flow lines and may be an artifact of transition from a fine grid discretization to a coarser grid discretization. Additionally, the groundwater and vadose zone flow numerical models assume numerous uniform isotropic conditions, which tend to homogenize impacts, and do not reflect actual conditions. Further, the contaminant fate and transport numerical model that overlies the groundwater flow numerical model uses generalized Kd values. The use of generalized Kd values is contrary to U.S. Environmental Protection Agency guidance (EPA/402-R-99-004A), which recommends using site specific contaminant values.

The revised Draft HSW EIS should explain why the predicted plumes and impacts differ from actual site conditions and historic projections. It should explain why the models may be used to reliably predict future conditions when they do not reliably predict current conditions. Moreover, the revised Draft HSW EIS should explain whether the values used in the models are consistent with the values used in the Resource Conservation and Recovery Act Permit Models and Comprehensive Environmental Compensation and Liability Act groundwater monitoring results for the Hanford Site. If the values differ, there should be an explanation why. Finally, the revised Draft HSW EIS should explain the basis for departing from the U.S. Environmental Protection Agency's guidance regarding use of site specific Kd values.

23

- Construction Borrow Sources. The Draft HSW EIS describes only the general area where capping material would be obtained and the disturbance to that area (Draft HSW EIS at 5.22 to 5.24). The Draft HSW EIS does not provide information on the sources, volumes or types of soils required for trench construction under the various alternatives. The necessary volumes may exceed available on-site resources or there may be insufficient supplies of the necessary type of soil. Either possibility would require shipment of soils from off-site or manufacture of amended soil on-site. The impacts of either possibility should be discussed. Even if there is a sufficient on-site

⁶ See TEGD at 47.

23

source, the revised Draft HSW EIS should explain how that source will be used consistent with the regulatory requirements for national monuments. It should also describe in detail a reclamation plan for any on-site sources.⁷ This is another issue that we raised in our 1996 Waste Management PEIS Comments that the U.S. Department of Energy has failed to address.

24

- Threatened or Endangered Species. The Draft HSW EIS indicates that the U.S. Department of Energy consulted with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, and requested a listing of federally protected species in the existing low-level burial grounds and "other areas potentially disturbed by waste management activities" in 1998. The Draft HSW EIS further indicates that the U.S. Department of Energy re-initiated those consultations, because the potential surface disturbance areas for the proposed action expanded well beyond the area considered in 1998. The Draft HSW EIS indicates that the National Marine Fisheries Service's and the U.S. Fish and Wildlife Service's responses to the most recent requests are pending. (Draft HSW EIS Section 5.5.4 at 5.24.)

The U.S. Department of Energy did not re-initiate consultations with the National Marine Fisheries Service or the U.S. Fish and Wildlife Service until preparation of the Draft HSW EIS was well underway. Appendix I of the Draft HSW EIS contains letters to both agencies from Steven H. Wisness, Director of the Richland Operations Office's Office of Site Services, dated March 25, 2002. (See Draft HSW EIS at I.15 to I.24.) The National Marine Fisheries Service responded by telephone on April 26, 2002 and the U.S. Fish and Wildlife Service responded with an April 23, 2002 letter describing three threatened species and twenty-three species of concern in the area of the proposed action. (See Draft HSW EIS at I.20-I.21.) The Draft HSW EIS is dated April 2002.

The Draft HSW EIS indicates that species concerns were not considered until very late in the development of the proposed action. Such late consideration is contrary to CEQ's NEPA regulations, which require agencies to prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses required by the federal Endangered Species Act. 40 CFR § 1502.25. The revised Draft HSW EIS should discuss in detail how the various alternatives will impact the species identified by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

Transportation Impacts

25

The Draft HSW EIS relies on the Final Waste Management Programmatic Environmental Impact Statement For Managing Treatment, Storage and Disposal of Radioactive and Hazardous Waste (DOE/EIS-0200-F), May 1997, for analysis of off-site transportation

23

⁷ As we recommended in our 1996 Waste Management PEIS Comments, the reclamation plan should include replanting with native seed and plant stock. (See discussion of infrastructure impacts, 1996 Waste Management PEIS Comments, at 2.)

25 | impacts. That Waste Management Programmatic EIS analyzed transportation risks associated with the waste volumes stored and projected to be generated through 2017.⁸ However, the Draft HSW EIS applies to waste volumes to be generated through 2046. Because the periods of analysis in the Waste Management Programmatic EIS and the Draft HSW EIS differ and the actual and projected waste volumes have changed significantly in the five years since the Waste Management Programmatic EIS was completed, it is inappropriate to rely on that document for analysis of off-site transportation impacts. The revised Draft HSW EIS should include a new analysis of such impacts using the most up to date waste volumes (current and projected). The analysis should extend through 2046.

Moreover, as we urged in our 1996 Waste Management PEIS Comments (at 7-9), we strongly suggest that the transportation impacts analysis include the following:

- 26 | 1. A route specific analysis – rather than a generic analysis – which identifies and considers the specific geographic and weather-related conditions for the portions of the transportation routes through Oregon to the Hanford Site.
- 27 | 2. The potential for impacts to the Confederated Tribes of the Umatilla Indian Reservation.
- 28 | 3. The use of dedicated or special trains to haul waste, rather than limiting the analysis strictly to the use of general freight for waste shipped by rail.

MITIGATION

The CEQ NEPA regulations require the environmental consequences section of an EIS to discuss means to mitigate environmental impacts if not discussed in the alternatives section of an EIS. 40 CFR § 1502.16(h). The regulations further define mitigation as avoiding the impacts altogether, minimizing the impacts, rectifying the impacts by repairing, rehabilitating or restoring the affected environment, reducing the impact or compensating for the impact. 40 CFR § 1508.20(a)-(e).

29 | As noted previously, the Draft HSW EIS does not discuss mitigation in the alternatives section. Section 5.18 (Draft HSW EIS at 5.112 to 5.114) describes potential mitigation measures for the impacts identified. This section is wholly inadequate and fails to meet NEPA's requirements. The fundamental problem with this section is no mitigation measures are specified and performance of mitigation is contingent upon U.S. Department of Energy discretion.

For example, the introduction to Section 5.18 provides: "This section contains a description of mitigation measures that *might be considered* to avoid or reduce

25 | ⁸Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage and Disposal of Radioactive and Hazardous Waste (DOE/EIS-0200-F), May 1997, Appendix E, Section E.2.3 at E-11.

Comments on the Draft HSW EIS
August 15, 2002
Page 9 of 9

29 environmental impacts made as a result of Hanford Site operations in support of solid waste management.” (Draft HSW EIS at 5.112, emphasis added). The same paragraph states that after preparation of the Record of Decision, “a mitigation plan *would be prepared if warranted*” to address action specific to the alternative selected for implementation. “That plan *would be implemented as necessary to mitigate significant adverse impacts* of solid waste management activities.” In essence, the Draft HSW EIS states that the U.S. Department of Energy will develop a mitigation plan if it decides one is necessary.

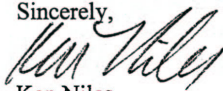
30 A description of specific measures to mitigate the identified impacts is essential to comparing the environmental impacts of the alternatives and choosing a preferred alternative. Postponing a detailed analysis and plan for mitigation until just prior to initiating operations (see Draft HSW EIS Section 5.18.3 at 5.112) defeats the whole purpose of the NEPA process. That process requires assessment of such measures at the go-no go stage of planning a project, not when a project is underway. The mitigation measures must be developed and analyzed during the early stages of planning, because they may influence or alter the alternative selected.

31 In addition, implementation of mitigation measures should not be left up to U.S. Department of Energy discretion. If the impacts are so uncertain that the U.S. Department of Energy cannot specify measures to mitigate them or whether it will implement any such measures, then the impacts of the proposed action are too uncertain to proceed. In that event, the U.S. Department of Energy should postpone the proposed action until it can characterize the impacts with sufficient certainty to specify mitigation measures.

In short, the revised Draft HSW EIS should describe specific measures that the U.S. Department of Energy will implement to mitigate the impacts identified in Section 5.0 of the Draft HSW EIS. The Oregon Office of Energy recommends that the U.S. Department of Energy develop those mitigation measures in consultation with the Hanford Natural Resources Trustee Council.

Again, the Oregon Office of Energy appreciates the opportunity to comment on the Draft HSW EIS. We look forward to receiving the U.S. Department of Energy’s direct, written responses to these comments. If you have questions, please contact me at 503-378-4906.

Sincerely,



Ken Niles
Administrator, Nuclear Safety Division



Oregon

John A. Kitzhaber, M.D., Governor



OREGON OFFICE
OF ENERGY

625 Marion St. NE, Suite 1
Salem, OR 97301-3742
Phone: (503) 378-4040
Toll Free: 1-800-221-8035
FAX: (503) 373-7806
www.energy.state.or.us

August 15, 2002

Mr. Keith Klein
Manager, Richland Operations Office
PO Box 550
Richland, WA 99352

Dear Keith:

201 Enclosed with this letter are the comments of the Oregon Office of Energy on the draft Hanford Solid Waste Program Environmental Impact Statement (Solid Waste EIS). Our review has found many deficiencies in the draft Solid Waste EIS and our comments reflect our concern about the adequacy of this document. We believe that the draft Solid Waste EIS is so inadequate that USDOE should begin again and issue a revised draft for public review that adequately addresses the issues raised in our comments.

202 In addition to other deficiencies, the draft Solid Waste EIS raises questions about the adequacy of treatment and disposal plans both for existing solid waste already at Hanford and the massive amounts of additional waste which would be sent to Hanford. In prior
203 programmatic and Hanford site-specific environmental impact statements we have opposed proposals by USDOE to send large amounts of new waste to Hanford and we have filed comments which expressed in great detail the reasons for our opposition. None of those
204 concerns were addressed in prior environmental impact statements nor have they been addressed in the current draft Solid Waste EIS. Our concerns about the impacts of shipping such large amounts of waste through Oregon have also not been addressed.

205 I am also concerned that the inadequacy of the draft Solid Waste EIS undermines the important work to accelerate Hanford cleanup through the Cleanup Constraints and Challenges Team (C3T). Oregon continues to support the C3T effort and the commitments made by USDOE in the latest draft of the Performance Management Plan for the Accelerated Cleanup of the Hanford Site. However, the draft Solid Waste EIS raises a number of questions about the ability of USDOE to meet those commitments. For example, the large amount of new solid waste which would be stored and disposed at the Hanford site may divert efforts from the actions needed to implement the Accelerated Cleanup Plan.

RL COMMITMENT
CONTROL

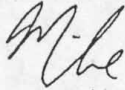
AUG 20 2002

RICHLAND
OPERATIONS OFFICE

August 15, 2002
Page 2

206 I regret that our comments are not more positive. However, I encourage you to reissue a draft environmental impact statement for public review which remedies these shortcomings. Please contact me at (503) 378-5489 or Ken Niles at (503) 378-4906 if you have any questions or would like to discuss this further.

Sincerely,



Michael W. Grainey
Director

Cc: Mr. Tom Fitzsimmons, Director, Washington Department of Ecology
Mr. Mike Gearheard, U. S. Environmental Protection Agency
Stuart Harris, Confederated Tribes of the Umatilla Indian Reservation
Russell Jim, Yakama Indian Nation
Patrick Sobotta, Nez Perce Tribe
Oregon Hanford Waste Board
Todd Martin, Hanford Advisory Board
Oregon Congressional Delegation

Mwg/hanford/2002/solidwastecisltr.doc

Responses to Letter L103

Comments

Responses

- 1 We agree. The U.S Department of Energy (DOE) solicited input from regulators, Tribal Nations, and members of the public over a three-month time period on the draft *Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement* (HWS EIS). The input received made it clear that DOE needed to provide more information and better explain the entirety of the waste management program at Hanford, including how it fits into the larger picture of waste management across the DOE complex. DOE has revised the HSW EIS to address comments received in writing and at public meetings.
- For the revised draft HSW EIS, we are following a similar procedure, including a 45-day public comment period and public meetings. Information has been sent to anyone who requested information, attended a public meeting, or submitted comments on the first draft.
- 2 The draft HSW EIS has been revised and reissued to provide another opportunity for public comment. The EIS has been prepared in compliance with DOE and Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) requirements.
- 3 The summary of this HSW EIS has been revised to present a brief overview of the major conclusions and areas of controversy for the HSW EIS. Additional discussion of the Waste Management Programmatic (WM PEIS) and its resulting decisions is in Section 1.5 of this HSW EIS.
- 4 - 5 The relationship of site-specific NEPA documents and the decisions made by the Records of Decision issued pursuant to the WM PEIS are summarized in Chapter I, Introduction and Background, of the PEIS, as follows:
- “DOE will use the analyses presented in the PEIS to decide on a programmatic or strategic approach to managing its waste. DOE intends to select a configuration of DOE sites for waste management activities on the basis of the WM PEIS and other factors. The level of analysis in the WM PEIS is appropriate for making broad programmatic decisions on what DOE sites should be used for waste management. At the programmatic level, however, it is not possible to take into account special requirements for particular waste streams, different technologies that are or may be available to manage particular wastes, or site-specific environmental considerations such as the presence of culturally important resources or endangered species at a specific location on a site. DOE will rely upon other NEPA reviews, primarily ones that evaluate particular locations on sites or projects (sitewide or project-level reviews), for these analyses. Thus, decisions regarding specific locations for waste management facilities at DOE sites or the waste management technologies to be used will be made on the basis of sitewide or project-level NEPA reviews.”

Responses to Letter L103

Comments

Responses

- 6 This HSW EIS provides important environmental information to assist DOE in making decisions about site-specific storage, treatment, and disposal actions at Hanford. This EIS includes a revised purpose and need statement that was developed in consultation with U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) staff (see Section 1.2).
- 7 The System Assessment Capability (SAC) has been used to provide additional cumulative impact information, which includes pre-1970 waste (see Section 5.14 and Appendix L).
- This HSW EIS has been revised to include the disposal of the ILAW stream from the high-level waste treatment program. The Environmental Impact Statement for Retrieval, Treatment, and Disposal of Tank Waste and Closure of Single-Shell Tanks at the Hanford Site (68 FR 1052) will analyze other tank waste activities.
- 8 This HSW EIS complies with the letter and intent of applicable CEQ NEPA requirements. See Response 4.
- 9 An EIS must briefly specify the purpose and need to which the agency is responding in proposing the alternatives, including the proposed action (40 CFR 1502.13). This HSW EIS includes a revised purpose and need statement that was developed in consultation with U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) staff (see Section 1.2).
- 10 Sections 3 and 5 have been substantially revised to evaluate additional alternatives, including those with additional mitigation components.
- 11 A No Action Alternative under NEPA does not necessarily mean no action at all (see CEQ Forty Most Asked Questions, Question 3, No Action Alternative [46 FR 18026]). Pursuant to the HSW EIS Notice of Intent (65 FR 10061), under the no action alternative, "DOE would continue ongoing waste management activities and implement those actions for which NEPA reviews have been completed and decisions made [the baseline for analytical purposes would be the time of issuance of the first draft HSW EIS]. The no action alternative will provide a baseline for comparison of the environmental impacts of the proposed action and its alternatives." Discussion of a "stop action" scenario has been added in Section 3 and in Appendix O.
- This HSW EIS includes additional alternatives for disposal of LLW, MLLW, ILAW, and WTP melters in either independent or combined-use facilities that comply with RCRA and state standards for disposal of hazardous wastes. A number of locations for the disposal facilities are considered, including the ERDF (see Section 3.). Many of the alternative disposal facility configurations would include liners, leachate collection

Responses to Letter L103

Comments

Responses

systems, and regulatory-compliant covers installed at or before closure (see Section 3.). Mitigation measures are discussed in Section 5., and measures such as greater confinement of higher-activity LLW and MLLW are incorporated into the HSW EIS alternatives.

All of the action alternatives discussed in this EIS comply with applicable DOE radioactive waste management requirements (e.g., DOE 435.1 [DOE 2001]). The 10 CFR 61 regulations are applicable to commercial facilities, not DOE facilities.

- 12 A No Action Alternative under NEPA does not necessarily mean no action at all (see CEQ Forty Most Asked Questions, Question 3, No Action Alternative [46 FR 18026]). Pursuant to the HSW EIS Notice of Intent (65 FR 10061), under the no action alternative, "DOE would continue ongoing waste management activities and implement those actions for which NEPA reviews have been completed and decisions made [the baseline for analytical purposes would be the time of issuance of the first draft HSW EIS]. The no action alternative will provide a baseline for comparison of the environmental impacts of the proposed action and its alternatives." Discussion of a "stop action" scenario has been added in Section 3. and in Appendix O.

The revised draft HSW EIS also evaluates various forecast waste quantities that include only Hanford generated waste, in addition to varying amounts of offsite waste. The inclusion of a Hanford Only volume provides an evaluation of a scenario in which no offsite waste would be received.

- 13 Treatment technologies for hazardous constituents in MLLW are largely specified by RCRA and state regulations. The specific technologies assumed for the HSW EIS consequences analysis are intended to minimize the potential operational and long-term impacts. This EIS also assumes certain categories of waste are placed in high-integrity containers or in-trench grouted to minimize the potential operational and long-term impacts.

- 14 A broader range of locations and trench sizes, some of which include liners and leachate collection, are evaluated in this HSW EIS.

This HSW EIS includes additional alternatives for disposal of LLW, MLLW, ILAW, and WTP melters in either independent or combined-use facilities that comply with RCRA and state standards for disposal of hazardous wastes. A number of locations for the disposal facilities are considered, including the ERDF (see Section 3.). Many of the alternative disposal facility configurations would include liners, leachate collection systems, and regulatory-compliant covers installed at or before closure (see Section 3.). Mitigation measures are discussed in Section 5., and measures such as greater confinement of higher-activity LLW and MLLW are incorporated into the HSW EIS alternatives.

Responses to Letter L103

Comments

Responses

- 15 This HSW EIS includes additional alternatives for disposal of LLW, MLLW, ILAW, and WTP melters in either independent or combined-use facilities that comply with RCRA and state standards for disposal of hazardous wastes. A number of locations for the disposal facilities are considered, including the ERDF (see Section 3.). Many of the alternative disposal facility configurations would include liners, leachate collection systems, and regulatory-compliant covers installed at or before closure (see Section 3.). Mitigation measures are discussed in Section 5., and measures such as greater confinement of higher-activity LLW and MLLW are incorporated into the HSW EIS alternatives.
- Additional information on performance assessments has been provided in Appendix G. Active institutional controls, including maintenance and surveillance, will be performed after trenches are closed.
- 16 This HSW EIS has been revised to evaluate disposal of an additional waste stream, to provide evaluations of additional alternatives, and to provide additional information in response to comments.
- 17 The SAC has been used to provide additional cumulative impact information on the Hanford Site (see Section 5.14 and Appendix L). This HSW EIS addresses increased risks associated with the proposed action and alternatives. Sections 3 and 5 and their associated appendixes provide additional information and a comparative analysis of potential impacts among the alternatives. DOE has used the best available data and appropriate analytical methods in assessing environmental consequences.
- 18 Appendix G discusses waste forms, release models, and how they were applied in modeling groundwater transport. Uncertainties associated with the impact analyses are addressed in Section 3.
- 19 The HSSWAC are addressed in Section 2 of this HSW EIS. The full set of criteria is referenced and available. As required by DOE 435.1, the HSSWAC would be revised as needed, based on periodic performance assessment updates prepared during operations, to ensure that long-term impacts would not exceed established dose standards. An environmental monitoring program, including groundwater and air sampling, will confirm facility performance and compliance with dose standards (Wood 1990). The HSSWAC also incorporate requirements for greater confinement of higher-activity LLW and MLLW through disposal in high-integrity containers, or by grouting the waste in place in the disposal facility.
- All waste would have to meet HSSWAC. Mixed wastes would also have to be treated to meet LDRs prior to disposal. Most of the disposal alternatives include lined trenches that would meet the substantive requirements of RCRA and the Washington Dangerous

Responses to Letter L103

Comments

Responses

- Waste Regulations. The cumulative impacts analysis includes potential impacts from past, present, and reasonably foreseeable disposal practices (see Section 5.14 and Appendix L).
- 20 Groundwater monitoring is conducted as part of an integrated program according to DOE Orders, the RCRA permit, and TPA requirements for the disposal areas, and will be expanded as necessary according to agreements between DOE and regulatory agencies to support future waste management operations.
- 21 The hypothetical wells used for groundwater quality analysis in the HSW EIS are not intended to be locations for the point-of-compliance monitoring wells that may be constructed in the future. The locations were chosen as points of analysis only to assess the impacts of all waste disposal sites on groundwater quality. Groundwater monitoring would be expanded as necessary according to agreements between DOE and regulatory agencies to support future waste management operations. A discussion concerning a possible enhanced system of monitoring wells has been added to Section 5.18 in response to comments.
- Location of new waste disposal in already contaminated areas makes detection of contamination from specific sources more difficult. However, the alternative is to dispose of waste in uncontaminated areas.
- 22 Given the expected long delay of contaminants reaching the water from the LLBGs, the hydrologic framework of all groundwater transport calculations was based on postulated post-Hanford steady-state water table as estimated with the three-dimensional model. These conditions would only reflect estimated boundary condition fluxes (for example, natural recharge and lateral boundary fluxes) and not the effect of past and current wastewater discharges on the unconfined aquifer system that are seen in current conditions.
- The current version of the sitewide model relies on a three-dimensional representation of the aquifer system that was calibrated to Hanford sitewide groundwater monitoring data collected during Hanford operations from 1943 to the present. The calibration procedure and results for this model are described in Cole et al. (2001a). This recent work is part of a broader effort to develop and implement a stochastic uncertainty estimation methodology in future assessments and analyses using the sitewide groundwater model (Cole et al. 2001b). The resulting distribution of hydraulic conductivities from this recent calibration effort is provided in Figures G.11 and G.12 in Appendix G of this HSW-EIS. DOE believes that modeling procedures and values used are consistent with those applied in the RCRA and CERCLA context at Hanford.

Responses to Letter L103

Comments

Responses

- The assessment benefits from preceding analyses and field observations, including the performance assessments for 200 West and 200 East post-1988 burial grounds (Wood et al. 1995, 1996), the remedial investigation and feasibility study of the ERDF (DOE 1994b), the disposal of ILAW originating from the single- and double-shell tanks (Mann et al. 1997) and (DOE/ORP 2001), and the Composite Analysis of the 200 Area Plateau (Kincaid et al. 1998). These and other analyses, (for example, environmental impact statements) included development of inventory data and application of screening or significance criteria to identify the radionuclides that could be expected to significantly contribute to either the dose or risk calculated in the respective analysis. Clearly, those radionuclides identified as potentially significant in these published analyses are also expected to be key radionuclides in this assessment.
- 23 The amount of capping material needed is addressed in Section 5.10. In response to the concern that the Area C borrow pit is in the National Monument, this is a common but incorrect assumption. Area C is not in the National Monument (65 FR 37253). In consultation with the U.S. Fish and Wildlife Service and the Washington State Department of Fish and Wildlife, Area C was designated for “conservation mining” land use in the Hanford Comprehensive Land-Use Plan EIS (DOE 1999). Area C was selected to avoid damaging an essential wildlife corridor between the Hanford Site and the Yakima Training Center.
- 24 In addition to the NEPA-required consultation for this EIS, DOE is a co-manager with the FWS for the Hanford Reach National Monument. DOE meets with various levels of FWS management on an ongoing and regular basis to discuss common issues. This provides an added opportunity for consultations outside of the NEPA process. The March 2002 consultation request letters were intended to update the previous consultations prior to release of the draft HSW EIS.
- This HSW EIS addresses biological and ecological resources in Section 4.6 and in Appendix I. Estimated impacts on ecological resources are summarized in Section 5.5. DOE believes that the consultations with the NMFS and FWS have been timely and used in the appropriate context in this EIS.
- 25 The impacts of transporting waste to and from Hanford through the states of Oregon and Washington are included in Section 2.2.4, Section 5.8, and Appendix H in Volumes I and II of this HSW EIS.
- 26 The impacts of transporting waste to and from Hanford through the states of Oregon and Washington are included in Section 2.2.4, Section 5.8, and Appendix H in Volumes I and II of this HSW EIS. This discussion now includes information on transportation routes through Oregon. RADTRAN uses route-specific accident statistics that account for geography, weather, driver error, traffic load, and road conditions.

Responses to Letter L103

Comments

Responses

- 27 The potential impacts to all people along Oregon transportation routes are included in this HSW EIS.
- 28 The U.S. Department of Transportation study (DOT 1998) compared dedicated and regular freight service using factors that measure impacts to overall public safety. The results of this study indicated that dedicated trains could provide advantages over regular trains for incident-free transportation but could be less advantageous for accident risks. However, available information does not indicate a clear advantage for the use of either dedicated trains or general freight service. Even though the DOT study was for HLW and spent nuclear fuel the conclusions are expected to be applicable to other waste types as well.
- 29-31 Additional information on potential mitigation measures is included in Section 5.18 of this HSW EIS. The alternatives section has been expanded to include additional alternatives that incorporate specific mitigation features, including caps and liners.
- Trust organizations are intimately involved in Hanford site mitigation measures. The Department of Energy, Richland Operations (DOE-RL) has established an Office of Site Services (OSS), which takes the lead in defining Hanford's ecosystem management approach to biological resource management. A DOE-RL Natural Resources Working Group (NRWG) was established to assist OSS to provide assistance and oversight support to DOE-RL programs/contractors by providing ecological input and information to accomplish a sound clean up effort. Members of the Hanford Natural Resources Trustee Council include the Department of Interior, Native American tribes, and the states of Washington and Oregon, among others.

Note: (Numbering is not sequential; however, all comments and responses are included).

- 201 The draft HSW EIS has been revised and reissued to provide another opportunity for public comment. The EIS has been prepared in compliance with DOE and CEQ NEPA requirements
- 202 The draft HSW EIS has been revised and reissued to provide another opportunity for public comment. The EIS has been prepared in compliance with DOE and CEQ NEPA requirements.
- 203 This HSW EIS evaluates various forecast waste quantities that include only Hanford generated waste, in addition to varying amounts of offsite waste. The inclusion of a Hanford Only volume provides an evaluation of a scenario in which no offsite waste would be received. These offsite wastes are factored into the cumulative impact analysis addressed in Section 5.14 and Appendix L.

Responses to Letter L103

Comments

Responses

- 204 The impacts of transporting waste to and from Hanford through the states of Oregon and Washington are included in Section 2.2.4, Section 5.8, and Appendix H in Volumes I and II of this HSW EIS.
- 205 The draft HSW EIS has been revised and reissued to provide another opportunity for public comment. The EIS has been prepared in compliance with DOE and CEQ NEPA requirements.
- The C3T dialogue and Hanford Performance Management Plan (PMP) were completed after the release of the first draft HSW EIS. At the time the first draft of the HSW EIS was published (April 2002) the details of the accelerated cleanup schedule were not sufficiently developed to permit incorporating them into the analysis for the first draft HSW EIS. The revised draft HSW EIS evaluates new alternatives developed in response to public comments and to accommodate some accelerated cleanup proposals that have been under consideration in the period since the draft HSW EIS was published (e.g., co-disposal of LLW and MLW in a lined, mega-trench). DOE remains committed to the C3T process.
- 206 The draft HSW EIS has been revised and reissued to provide another opportunity for public comment. The EIS has been prepared in compliance with DOE and CEQ NEPA requirements.

3.2.3 Washington State Fish and Wildlife Service

AUG 23 '02 08:53AM DEPT FISHERIES

P.2/5



State of Washington
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: 660 Capitol Way N • Olympia, WA 98501-1091 • (360) 902-2200, TDD (360) 902-2207
Main Office Location: Natural Resources Building • 1111 Washington Street SE • Olympia, WA

August 20, 2002

Mr. Keith A. Klein, Manager
Department of Energy
Richland Operations Office
Post Office Box 550
Richland, Washington 99352

Dear Mr. Klein:

**SUBJECT: DRAFT HANFORD SITE SOLID (RADIOACTIVE AND HAZARDOUS)
WASTE PROGRAM ENVIRONMENTAL IMPACT STATEMENT (EIS)**

1

The Washington Department of Fish and Wildlife (WDFW) has completed review of the Draft Solid Waste EIS. The WDFW is providing comments on this EIS because of our responsibility to protect, preserve, perpetuate, and manage fish and wildlife resources in Washington State. The WDFW has significant fish and wildlife trustee resources associated with the Hanford site, and we are co-trustees with the Department of Ecology on the Hanford Trustee Council. Our comments are focused on the species potentially impacted by the proposed actions and the reluctance of Department of Energy's (DOE) commitment to fully mitigate for these actions.

2

Overall, the Draft EIS fails to adequately evaluate the impacts of proposed actions on state and federally listed species. The state has 18 listed species that are associated with shrub steppe habitat that are not evaluated within this document. This document devalues the importance of The Nature Conservancy's (TNC) ongoing biological inventory on the Hanford site. "From a conservation standpoint, the Hanford Site is a vital and perhaps the single most important link in preserving and sustaining the diverse plants and animals of the Columbia Basin Ecoregion" (TNC 1998). The 1999 TNC report indicated 28 rare plant taxa were located on the Hanford site, including three species that are new to science. Twenty species of butterflies and moths were new to science, and 14 species represent new state records for Washington. The bird inventories documented 221 species on the Hanford site including 22 not previously known.

3

Regarding the threatened and endangered species information presented on page 4.64, paragraph two, the following statement is incorrect, "no plants or mammals on the Federal list of threatened and endangered wildlife and plants are known to occur on the Hanford site," Table 4.11 should include the following species:

AUG 23 '02 08:53AM DEPT FISHERIES

P.3/5

Mr. Keith A. Klein
August 23, 2002
Page 2

3

Loggerhead shrike	SS/FSC
Sage Grouse	ST/FC
Washington Ground Squirrel	SS/FC
Burrowing Owl	SS/FSC
Pygmy Rabbit	SE/FE
Northern Goshawk	SC/FSC
Common Loon	SS
Sagebrush Lizard	FSC
Olive-sided Flycatcher	FSC
Willow Flycatcher	FSC

State Sensitive (SS), State Threatened (ST), State Endangered (SE), Federal Species of Concern (FSC), Federal Candidate (FC), Federal Endangered (FE),

The statement "the common loon is the only Washington State sensitive animal species found on the Hanford site," is also incorrect given the updated information, as shown above.

Table 4.12, Washington State Candidate (SC) species should include:

4

Lewis Woodpecker	SC
Vaux's Swift	SC

5

This Draft EIS fails to recognize the importance of the microbiotic crust to the shrub steppe ecosystem by excluding it in the limited analysis of project impacts to the environment. As stated in the TNC report, "it clearly plays an important role in ecosystem functioning by reducing erosion, contributing nitrogen and organic carbon to the soil, and increasing infiltration of precipitation into the soil. Intact crusts can also enhance native seedling establishment in arid ecosystems" (TNC 1999).

6

The Draft EIS does not include sufficient data regarding groundwater contamination and movement. Our concerns relate to the lack of information on current and potential contaminants and their impact to groundwater, which ultimately discharges to the Columbia River. Risks from carbon tetrachloride and PCB were not evaluated in this document. Within the Draft EIS it gives conflicting information on the impacts to the aquatic resources from this proposed project. The Appendix I states that potential impacts to riparian and aquatic resources would occur in the long-term (up to 10,000 years), following the conclusion of waste management operations. In

Mr. Keith A. Klein
August 23, 2002
Page 3

- 6 another paragraph (5.5.5.), Impacts to Aquatic Ecology in the Long-term, "leaching of radionuclides and other hazardous chemicals from the waste via infiltrating precipitation would eventually result in small quantities of long-lived mobile nuclides reaching the Columbia River. There was no evidence of adverse impacts on aquatic biota for any of the alternatives". Given the limited analysis provided within the Draft EIS, there is no guarantee that aquatic receptors would not be impacted from the proposed actions. Further, impacts to federally listed steelhead are not adequately analyzed within this document.
- 7 The DOE should not attempt to exclude itself from potential liability by the use of the term "irreversible and irretrievable commitments of resources" by excluding ground water impacts from this process (page 5.109). As stated in two previous WDFW letters regarding I and I language, DOE should thoroughly identify the natural resources which may be injured during remediation or other activity for each project, develop a plan for a full and proper mitigation for those injuries, and then carry through with a plan.
- 8 The WDFW is concerned with the lack of apparent commitment from DOE for mitigation for the continued loss of shrub steppe habitat in the Low Level Burial Ground's (LLBGs) in the 200 Area West and East, due to the efforts of vegetation control (herbicide application) as indicated in Appendix I. We disagree with the following statement, "continued use of these LLBGs, or new disturbance of the extant plant communities within them, would not result in the loss of any habitats designated by Washington State as priority habitat". The WDFW mitigation policy goal is to maintain the functions and values of fish and wildlife habitat in the state, and we strive to **protect the productive capacity and opportunities reasonably expected of a site in the future**. In the long term, WDFW shall seek a net gain in productive capacity of habitat through restoration, creation and enhancement. Since shrub steppe habitat is a WDFW priority habitat, a mitigation ratio of 3:1 is recommended for the loss of shrub steppe habitat on central Hanford, as indicated in the Hanford Site Biological Resources Mitigation Strategy Plan (BRMiS), for compensatory mitigation.
- 9 Appendix I discusses the proposed project's expansion of a borrow site (Area C) within the Arid Lands Ecology Reserve (ALE). This area is part of the Hanford National Monument and also contains mitigation sites from DOE's operations within the 200 Area. The maps provided within the appendix (figure I.1, I.2, I.3) do not illustrate the extent of disturbance this activity would have on ALE. In addition, Appendix D mentions the blasting of basalt in Area C. The discussion of potential impacts to terrestrial resources is excluded largely within this Draft EIS. Elk impacts due to this activity are only mentioned passively within the Aesthetic and Scenic Resources section of the Draft EIS. Elk are a priority species for the WDFW, and a more thorough assessment of the impacts of blasting to elk and other species is recommended.

AUG 23 '02 08:54AM DEPT FISHERIES

P.5/5

Mr. Keith A. Klein
August 23, 2002
Page 4

The WDFW appreciates the opportunity to comment on this Draft Solid Waste EIS. If you have any specific questions regarding the comments please contact Lauri Vigue (360) 902-2425.

Sincerely,



Greg Hueckel
Assistant Director, Habitat Program

GH:LV:kam

Cc: Ted Clausing, Region 3 Habitat Program Manager
David Mudd, Major Projects Division Manager
Cynthia Pratt, SEPA Coordinator
Larry Goldstein, WDOE

References

The Nature Conservancy. 1998. Biodiversity Inventory and Analysis of the Hanford Site. Seattle, Wa.

The Nature Conservancy. 1999. Biodiversity Inventory and Analysis of the Hanford Site. Final Report: 1994-1999. Seattle, Wa.

Responses to Letter L096

Comments

Responses

1 The U.S. Department of Energy (DOE) operates the Hanford Site in accordance with the Biological Resource Management Plan (BRMaP; DOE-RL 2001) and the Biological Resource Mitigation Strategy (BRMiS; DOE-RL 2003).

2 Biological and ecological resources are discussed in Section 4.6 and in Appendix D. Estimated impacts on ecological resources are evaluated in Section 5.5 and Appendix I. The Nature Conservancy's (TNC's) efforts are cited extensively in these sections. DOE considers the biodiversity inventories conducted by TNC to be valuable resources in planning future site activities.

3 "No plants or mammals on the Federal list of threatened and endangered wildlife and plants are known to occur on the Hanford Site" is in fact a correct statement, because the pygmy rabbit is currently not known to occur on Hanford.

With respect to the species listed --

- loggerhead shrike: this species is a State Candidate (per <http://www.wa.gov/wdfw/wlm/diversty/soc/candidat.htm> current through June, 2002), not State Sensitive, and is already in Table 4.12.
- sage grouse: this species is already in Table 4.11, but its status was corrected from Federal species of concern to Federal candidate.
- Washington ground squirrel: this species is a State Candidate (per <http://www.wa.gov/wdfw/wlm/diversty/soc/candidat.htm> current through June, 2002), not State Sensitive, and is already in Table 4.12.
- burrowing owl: this species is a State Candidate (per <http://www.wa.gov/wdfw/wlm/diversty/soc/candidat.htm> current through June, 2002), not State Sensitive, and is already in Table 4.12.
- pygmy rabbit: this species has been reported as residing on the Fitzner/Eberhardt Arid Lands Ecology (ALE) Reserve (Fitzner and Gray 1991).
- However, this observation is based on only one reported sighting in 1979. Its presence on the Hanford Site is unlikely, and has not been documented with additional sightings or physical evidence since that time despite intensive surveys (Neitzel 2002). Thus, it is not included in Table 4.11 of species "...occurring on the Hanford Site".
- Northern goshawk: this species is already in Table 4.12.
- common loon: This statement about this species is found on page 4.64 "The common loon (*Gavia immer*) is the only Washington State sensitive animal species

Responses to Letter L096

Comments

Responses

found on the Hanford Site.” Since it is the only “sensitive” animal species, it does not fit into one of the existing tables, and is thus already covered in the text.

- sagebrush lizard: this species was added to Table 4.11 (Fitzner and Gray 1991).
- olive-sided flycatcher: this species was added to Table 4.11 (Landeem et al. 1992).
- willow flycatcher: this species was added to Table 4.11 (Landeem et al. 1992).

With respect to the common loon comment –

The common loon is still the only Washington State sensitive animal species found on the Hanford Site, since the species the State has listed as sensitive in the above comment (loggerhead shrike, Washington ground squirrel, and burrowing owl) are really State candidates.

Vaux's Swift SC

- 4 Lewis' woodpecker was added to Table 4.12 (Fitzner and Gray 1991 and Landeem et al. 1992).

However, there is no written record of Vaux's swift occurring on the Hanford Site, so this species was not added.

- 5 A section on the potential impacts to microbiotic crusts has been added to Appendix I of the revised draft HSW EIS.

- 6 The HSW EIS provides extensive analysis of groundwater contamination and movement. See particularly Section 4.5 (Hydrology), Section 5.3 (Environmental Consequences -- Water Quality) and Appendix G and I.

There were only two chemicals of concern with respect to groundwater in the HSW EIS. These are Iodine 129 (I-129) and Technetium 99 (Tc-99). Their concentrations exceed benchmark maximum contaminant levels for wells located in the 200 West and 200 East areas. Technetium 99 (Tc-99) concentrations exceed benchmark maximum contaminant levels in wells also located in the 200W and 200E areas (DOE 2002). In order to accelerate the clean up of the Hanford site and sites across the complex, it may be necessary to undertake actions which may marginally increase the concentrations of Tc-99 and I-129 in the 200 areas in order to achieve these accelerated clean up schedules. The acceleration of clean up means that the Hanford site is cleaned up sooner than it otherwise would. Thus, MLLW would, at a hypothetical well located 1 km down gradient from the LLBG, marginally increase that concentrations of Tc-99 and I-129. Tc-99 would contribute a maximum of 28% of the benchmark maximum contaminant levels (Alternative 2, upper bound volume, 200W area) and would take 1200 years to

Responses to Letter L096

Comments

Responses

- reach that concentration. With respect to I-129 it would be 110% of the benchmark maximum contaminant levels (upper bound, Alternative 2, 200W area) (Draft HSW EIS 2002).
- 7 The Council on Environmental Quality (CEQ) regulations require the environmental consequences section of an EIS to identify any irreversible or irretrievable commitments of resources that would be involved in the proposal if it were implemented (40 CFR 1502.16). Section 5.15 has been revised to better clarify what natural resources might be affected. Potential mitigation measures are addressed in Section 5.18.
- 8 Section 5.5 and Appendix I of this HSW EIS document the biological resources that could be affected. Section 5.18 addresses mitigation measures that might apply to proposed action evaluated in this HSW EIS.
- 9 Area C is not in the National Monument (65 FR 37253). In consultation with the U.S. Fish and Wildlife Service and the Washington State Department of Fish and Wildlife, Area C was designated for “conservation mining” land use in the Hanford Comprehensive Land-Use Plan EIS (DOE 1999). Area C was selected to avoid damaging an essential wildlife corridor between the Hanford Site and the Yakima Training Center.